CLAIMS

What Is Claimed Is:

1. An IEEE1394 tone transmission method in beta mode comprising:

    a controller for automatic adjustment of power consumption level of the device as to whether or not an effective bus connection being made, a current reference with temperature compensation, a self-calibrated oscillator, a "tone" transmitter, a "tone" receiver, and termination circuitry.

2. An IEEE1394 tone transmission method in beta mode according to claim 1, wherein it automatically adjusts power consumption level when the cable is not plugged in.

3. An IEEE1394 tone transmission method in beta mode according to claim 2, wherein the termination resistors are disconnected when the cable is not plugged in.

4. An IEEE1394 tone transmission method in beta mode according to claim 1, wherein the oscillator is calibrated during the normal transmission when the cable is plugged in.

5. An IEEE1394 tone transmission method in beta mode according to claim 1, further comprising shutting down all circuits other than the current source, the oscillator, the tone transmitter, and the tone receiver, and disabling the termination resistors while the cable is unplugged.

6. An IEEE1394 tone transmission method in beta mode according to claim 1, further comprising automatically detecting the cable connection and connecting the termination resistors after cable connection is detected.

7. An IEEE1394-compliant transceiver, comprising:

    a receive pair interconnected by a first resistor module;

a receiver connected to said receive pair;

a controller connected to said receiver;

a current-controlled oscillator controlled by said controller;

a calibration controller for calibrating said current-controlled oscillator to a reference frequency;

a transmitter for transmitting a signal generated by said current-controlled oscillator;

a second termination resistor module defined by at least one resistor and switch means for shorting said resistor responsive to said controller; and

a transmit pair connected to said second termination resistor module.

8. The transceiver of Claim 7, wherein said controller defines an enable termination mode and a disable termination mode, said controller controlling said switch means to short said at least one resistor in said disable termination mode and to close said switch means circuit with said at least one resistor in said enable termination mode.

9. The transceiver of Claim 8, further comprising a reference signal generator for generating said reference frequency.

10. The transceiver of Claim 9, wherein said reference signal generator comprises a crystal oscillator.

11. The transceiver of Claim 7, wherein said calibration controller comprises a phase/frequency detector for comparing said reference frequency to a signal generated by said current-controlled oscillator and generating a control signal.

12. The transceiver of Claim 11, wherein said calibration controller comprises a digital counter for collecting said control signal from said phase/frequency detector.

13. The transceiver of Claim 12, wherein said calibration controller comprises a digital-to-analog converter for converting a signal generated by said digital counter into an analog current signal.

14. The transceiver of Claim 7, wherein said controller is responsive to an IEEE1394-compliant cable being connected to said receive pair, said controller thereafter responsively adjusting to enable termination mode and commanding said switch means to close said circuit to said at least one resistor.

15. An IEEE 1394-compliant tone transmission apparatus in beta mode, the apparatus comprising:

a current source;

a current controlled oscillator connected to said source;

a means for calibrating tone frequency generated by said oscillator during normal transmission and further transmitting tone signal at a constant frequency during IEEE1394-compliant standby mode when a cable is not plugged into said apparatus;

wherein said constant frequency is achieved through temperature and voltage stabilization means associated with said current source and said oscillator.